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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/892,386	06/26/2001	Apurva D. Naik	STL9963/40046.153USU1	2881
7590 11/12/2004			EXAMINER	
David K. Lucente Seagate Technology LLC Intellectual Property Dept.-COL2LGL 389 Disc Drive Longmont, CO 80503			MAI, TAN V	
			ART UNIT	PAPER NUMBER
			2124	
DATE MAILED: 11/12/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/892,386

Applicant(s)

NAIK, APURVA D.

Examiner

Tan V Mai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 7/26/01 & 7/2/04.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.  
4a) Of the above claim(s) 11-16 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 7-10 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/26/01.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

1. Applicant's election with traverse of Group I (claims 1-10) in Paper No. filed 7/2/04 is acknowledged. The traversal is on the ground(s) that "[c]laim 1 features a **square root calculator**. Claim 11 features a **means for calculating a velocity reference by calculating a velocity reference by calculating a square root for use in adjusting the velocity of the transducer head to achieve the velocity reference** ...

So in examining the structure, i.e., the square root, of claim 1, the examiner also be examining the means feature of claim 11. Since the examiner will cover both claims, there is no undue burden if all the claims of the present application are examined without restriction". This is not found persuasive because the claimed invention of Group I (claims 1-10) is directed to a **square root calculator** having detail features (i.e., see claim 1 "binary searching module", "fraction calculating module" and "summing module") classified in class 708, subclass 605. Group II (claims 11-16), however, directed to a disc drive having broadly components (i.e., see claim 11 "actuator arm", "transducer" having **means for calculating a velocity reference by calculating a velocity reference by calculating a square root for use in adjusting the velocity of the transducer head to achieve the velocity reference**" classified in class 360, subclass 240+. Therefore, the invention set forth in Group II requires a different and much broader area of search than the invention in Group I.

The requirement is still deemed proper and is therefore made FINAL.

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the modules of claim 1

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must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-6 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a "**method** involves calculating the square root of a number using a **fixed-point microprocessor**" (specification, page 3, lines 19-20 and Figs. 3-6), does not reasonably provide enablement for a **square root calculator having modules**. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make/use the invention commensurate in scope with these claims.

The examiner contends that not only would it require undue experimentation to design the above square root calculator which would perform the function(s) disclosed and claimed, but that it would also require undue experimentation for one of ordinary skill in the art to design working device that would permit the modules for providing/calculating the desired output result(s).

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 7-10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims recite a method for performing a mathematical function. The claimed invention comprises a plurality of mental steps whereby the claimed mental steps are non-statutory subject matter. Specifically, the claimed method steps can be practiced mentally in conjunction with pen and paper.

However, in order for such a claimed computer-related process to be statutory, the method claims must include either a step that results: (1) in a physical transformation outside the computer, (2) in a limitation to a practical application, or (3) performed specific machine/element(s). Accordingly, claims 7-10 are clearly directed to a non-statutory process.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cited references are art of interest.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan V. Mai whose telephone number is (571) 272-3726. The examiner can normally be reached on Tue-Fri from 6:30am to 5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki, can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is:

Official (703) 306-5404.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



**TAN V. MAI  
PRIMARY EXAMINER**